

DOI Electronics Stewardship

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2004 Facilities and Asset Management Conference



Food for Thought

Appetizers

Soup and Salad

Main Course

Dessert

Appetizers

It's right for the environment

NOTE: Substances listed in red must be phased out under California and European Union regulations.



Lead: Pervasive in circuit board solder and CRT monitor glass. Can cause mental development problems in children and increased blood pressure in adults. Long-term effects include stroke, kidney disease and cancer.

Hexavalent chromium: Used for corrosion protection and as a hardener in metal housings. A recognized carcinogen. May also cause respiratory problems.

Mercury: Used in LCD backlighting, circuit boards, some switches. Known to cause birth defects, elevated blood pressure and heart problems.

Cadmium: Found in batteries, printed circuit boards, some plastics. Ranked among the most hazardous chemicals by the EPA, cadmium is a known carcinogen and can cause developmental and reproductive problems.

Beryllium: Used in circuit boards. A known carcinogen. Suspected to cause kidney, liver, respiratory, cardiovascular and other problems.

Barium: Used in CRTs to block radiation. Suspected to cause reproductive, developmental, neurological and respiratory problems.

Phosphorous: Found in CRTs. A suspected hazard, but toxicity is undocumented. Considered hazardous under the Federal Clean Air Act.

Plastics: In circuit boards, housings, cables and connectors. Can release dioxin when burned. Dioxin is a documented carcinogen and suspected developmental toxin.

Brominated flame retardants: Include polybrominated biphenyls and polybrominated diphenyl ethers, both used in plastics. Confirmed carcinogens. Cause birth defects. Suspected to cause reproductive, neurological and endocrine problems.

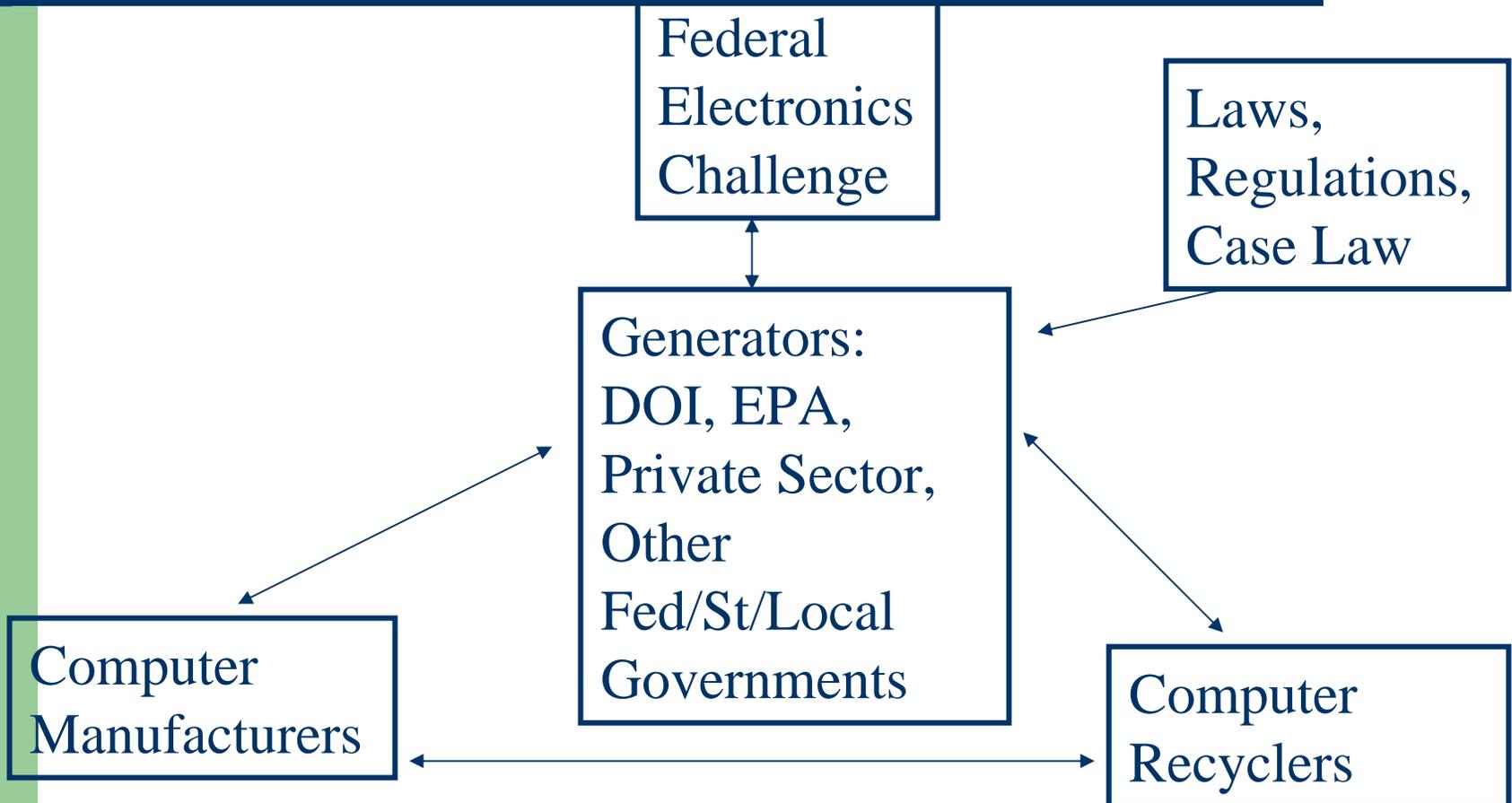
- Also ... We have to
- up to 9 lbs of lead = HAZARDOUS WASTE

Appetizers

- We have to
 - Resource Conservation and Recovery Act (RCRA)
 - Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
 - Enforcement Examples
 - AT&T/Lucent
 - MN

Soup and Salad

What's been going on?



The Main Course

Who

What

When

Why

Where/How

Who

- Any property manager that has responsibility for electronics disposal

America Recycles Day, November 2003







What

- Electronics – computer monitors, PC towers, laptops, radios, VCRs, TVs, printers, Fax machines, copiers



When

- Yesterday!
- By end of 2004: computers in the solid waste stream could add as much as
 - 4 billion pounds of plastic,
 - 1 billion pounds of lead,
 - 2 million pounds of cadmium, and
 - 400,000 pounds of mercury.

Why

- Enforcement Examples
 - Minnesota and California Cases
 - Statutory Liability
 - AT&T/Lucent Case



Greening the Department of the Interior

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Waste Prevention and Recycling

How to Recycle Particular Commodities

- [Antifreeze](#)
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- [Carpet](#)
- [Ceiling Tiles](#)
- [Computers](#)
- [Construction / Demolition Debris](#)
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Recent EPA Enforcement Case Results in \$195,000 Fine for AT&T for Improper Disposal of Computers

"AT&T has settled with the U.S. Environmental Protection Agency (EPA) on charges it did not properly respond to an agency request for information about its computer disposal practices, and will now pay a penalty of \$195,000. EPA inspected the AT&T facility at 412 Mount Kemble Avenue in Morristown, New Jersey in November 1998 in response to a tip that possible hazardous waste, including computers and other equipment, was being mismanaged. After the inspection, EPA sent a letter to AT&T asking how the facility managed its waste computers and electrical equipment. In two separate responses, AT&T provided some information to EPA, but the agency believes the company did not fully answer inquiries into how it managed waste computers and electrical equipment – a violation of the Resource Conservation and Recovery Act (RCRA), which gives EPA the authority to request specific information from facilities about their management of hazardous waste. Some computers contain small amounts of toxic compounds including lead, mercury, cadmium and arsenic. Although individual computers from households may be placed in solid waste landfills, EPA requires commercial establishments disposing of computers to determine whether they qualify as hazardous waste, and if so, to have the computers sent to an approved hazardous waste disposal facility or to a recycler. AT&T ultimately submitted the missing information to EPA, and no charges have been filed against the company for improper disposal of computer parts. For more information, contact Nina Habib Spencer, (212) 637-3670."

Source: EPA Region 2 August 2000 press release

Main Course

- IT Security
 - Must “wipe out” hard drive of all information
- Donation to Schools/Education
- Wisconsin Checklist for Recyclers



A. General Questions to Ask: In securing an electronics recycler, you will want to ascertain some basic information about the service provider, regardless of size of operation.

1) Does the service provider accept the products you want recycled? Yes No

Depending on the scope of your electronics, the organization may or may not be able to provide recycling services for your materials.

2) Can the service provider describe its fees for various types of equipment? Yes No

Facilities will often have different fee levels for recycling various types of electronics. These fees may be expressed on a per pound or per product basis. As well, these fees may or may not include collection and/or transport. In general, you should see if 1) the fees proposed by service provider are in alignment with your budget, and 2) the fees proposed are comparable with fees from other bidders and past fee proposals.

3) Can the service provider offer the services that you may require? Yes No

Depending on your requirements, you may need value-added services that may not be available from every recycler. Examples of value-added services may include:

- On-site collection support
- Transportation support
- Event promotion
- Product reuse or refurbishment
- Hard drive erasure
- Product tracking

4) Can the service provider provide a list of references, including the most recent and related clients they have provided service for? Yes No

Many firms can provide a list of references. It is important to also obtain a list of the organizations that the service provider has most recently provided service to. This will assure that the references you call are not self-selected.

B. Compliance with federal, state, and local environmental laws to safeguard occupational and environmental health and safety.

1) Does the service provider have an EPA ID number? Yes No

An EPA ID number is not a permit or a certification and EPA does not certify electronics recyclers. A company that has an EPA ID number is not an "EPA approved" recycler. An EPA ID number only indicates that the company has registered with EPA as a waste generator.

2) Can the service provider provide information on its compliance history? Yes No

This type of information is available from the state regulatory agency or the federal EPA regional contact for RCRA compliance. Examples of information to look for may include:

- Summary of federal, state EPA, or other governmental agency inquiries during the past three years.
- Material reports to government agencies from the past three years

process the plastic, metal and glass and ship these to other companies for use in production of recycled products.

3) Can the service provider offer evidence of proper permits? Yes No

These permits may be environmental or business/operations oriented. Permit requirements vary state to state. The size and scope of the service provider will affect permit requirements as well. Example of permits required in Wisconsin include:

- Air permit
- Storm water permit
- Solid Waste permit
- Business permit
- Zoning permit
- Transportation/licensure

4) Can the service provider provide evidence of an environmental management system (EMS), an environmental risk management plan or electronic recycling certification? Yes No

An EMS system or certification is not a guarantee of high environmental standards, and smaller companies are less likely to have a certified EMS system or a certification. Two examples of EMS systems are ISO 14000 and the European Eco-Management and Audit Scheme (EMAS). The International Association of Electronic Recyclers (IAER) offers a certification program.

5) Does the service provider have a hazardous materials management plan? Yes No

A service provider should have an operating plan in place that will ensure that all hazardous constituents are managed and ultimately recycled in a manner that prevents releases of hazardous constituents into the environment.

6) Does the service provider meet its OSHA requirements? Yes No

OSHA requirements will vary between facilities. The service provider should be able to evidence:

- List of applicable OSHA mandates
- Summary of OSHA inquiries for past 3 years including health hazard evaluations
- Full OSHA citation history
- Training records and written programs required by OSHA standards

7) Is there a trained Environment Health and Safety supervisor on site? Yes No

A trained EHS supervisor will often perform informal and formal inspections, procure needed safety equipment, and address EHS reporting requirements. A smaller company may not have a supervisor on site, but should have an employee assigned to this task.

C. Documentation regarding end-use markets. If the service provider does not perform any of the tasks outlined below, they should be able to identify the downstream market or service provider.

1) What does the service provider do with the electronic equipment it receives? Yes No

- refurbish equipment for use by another user
- demanufacture equipment and sell components and parts
- send materials to a metals reclamation plant or smelter

1) Does the service provider have Environmental liability protection? Yes No

The service provider should be able to provide a schedule or copy of its insurance policy and



Example of Electronic Recycling Disclosure Checklist - Wisconsin

September 2003

The Wisconsin Electronic Recycling Disclosure Checklist is designed as a guide for the generators of electronic waste... The Checklist is organized as a series of questions on recycler operation and management practices...

Along with recognizing that e-waste generators have different needs and concerns, we recognize that not all recyclers offer the same array and complexity of services. Smaller recyclers are more likely to use downstream services to handle and market end parts and products.

Recyclers typically fall in the following categories:

- Collection/ hauler: Collect computers and TVs and transport them to another business for repair, reuse or recycling...
Repair Shop: Repair computers and TVs for resale and remove operational and valuable components...
Electronic Demanufacturer: Demanufacture electronics for reusable and operational components...
Private Asset Recovery Operation: Specialize in providing the highest return on discarded computer equipment...

Main Course

Each facility will be unique:

- Location of Facility
- Amount of electronics
- Bureau Property Disposal Regulations

Main Course

- Waste Reduction/Pollution Prevention
 - Packaging and other tag-along wastes



Dessert

- Contracting
 - IT Acquisition
 - Disposal Services
- EPA Recycling Electronics and Acquisition Disposal Government-Wide Acquisition Contract
- FEC and EPEAT
- Toner Cartridge Recycling Programs
- One-stop-shop website

INPUT AND QUESTIONS WELCOME!



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